

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>AZ02-171WODA</b>	<b>FOR FURTHER ACTION</b>	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. <b>PCT/KR 2004/001029</b>	(Earliest) Priority Date ( <i>day/month/year</i> ) <b>11 June 2003 (11.06.2003)</b>	International filing date ( <i>day/month/year</i> ) <b>3 May 2004 (03.05.2004)</b>
Applicant <div style="text-align: center;"><b>LG ELECTRONICS INC.</b></div>		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☒ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see continuation of this first sheet.

2. ☐ Certain claims were found unsearchable (see continuation of this first sheet)

3. ☐ Unity of invention is lacking (see continuation of this first sheet)

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in the continuation of this first sheet. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. 1

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

**Continuation No. IV:****Text of the abstract****(Continuation of item 5 of the first sheet)**

Disclosed is a rotary compressor having two compression capacities in clockwise and counterclockwise directions. The rotary compressor includes: a driving shaft (13) being rotatable clockwise and counterclockwise, and having an eccentric portion (13a) of a predetermined size; a cylinder (21) having a predetermined inner volume; roller (22) installed rotatably on an outer circumference of the eccentric portion (13a) so as to contact an inner circumference of the cylinder, performing a rolling motion along the inner circumference and forming a fluid chamber (29) to suck and compress fluid along with the inner circumference; a vane (23) installed elastically in the cylinder to contact the roller; upper and lower bearing (24,25) installed respectively in upper and lower portions of the cylinder (21), for rotatably supporting the driving shaft (13) and hermetically sealing the inner volume; suction (27) and discharge ports (26) communicating with the fluid chamber (29) depending on the rotational direction of the driving shaft (13).

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## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/KR 2004/001029A. CLASSIFICATION OF SUBJECT MATTER  
F04C 29/10, F04C 15/04, F04C 29/08

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
F04C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
EPODOC, WPI; search terms: reversible, compressor

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4598559 (TOMAYKO) 8 July 1986 (08.07.1986) <i>abstract; fig. 1-6; column 1, lines 43-58.</i>	1,2,4-10,13, 14,19,20,30, 37- 41,56,63, 76, 79,81,87, 89, 98,101-106, 110,115
A	EP 0652372 A1 (MITSUBISHI DENKI KABUSHIKI KAISHA) 27 April 1994 (27.04.1994) <i>abstract; fig.1,2,4,12; column 1, line 55 - column 2, line 14.</i>	1,4-8,10,50, 76,79,81,87, 89,101-106, 130,131

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

## \* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search  
10 August 2004 (10.08.2004)Date of mailing of the international search report  
6 September 2004 (06.09.2004)Name and mailing address of the ISA/ AT  
**Austrian Patent Office**  
Dresdner Straße 87, A-1200 Vienna  
Facsimile No. +43 / 1 / 534 24 / 535Authorized officer  
**HÖRZER K.**  
Telephone No. +43 / 1 / 534 24 / 359

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/KR 2004/001029

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2904973 (KOSFELD) 22 September 1959 (22.09.1959) <i>fig. 1-4; column 3, line 56 - column 4, line 43.</i>	1,49,51,63,92, 96,
A	-- US 2812128 (BOSCH) 5 November 1957 (05.11.1957) <i>fig. 1,2; column 1, line 59 - column 2, line 9; column 5, lines 21-28.</i>	1,71,72,73,78, 79,81,82
A	-- EP 0669464 A1 (RABA MAGYAR VAGON-ÉS GÉPGYAR RT.) 23 February 1995 (23.02.1995) <i>abstract; fig. 1,2,6; column 2, line 26 - column 3, line 4; column 6, lines 31-47.</i>	1,2,4-6,9,12, 23,25,29,37, 43,52
A	-- US 4629403 A (WOOD) 16 December 1986 (16.12.1986) <i>fig. 1,2; column 5, lines 43-47.</i>	1,12,52
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INTERNATIONAL SEARCH REPORT  
Information on patent family members

International application No.  
PCT/KR 2004/001029

Patent document cited in search report			Publication date	Patent family member(s)		Publication date	
EP	A	652372		HK	A	1008693	2000-03-31
				DE	T	69411351T	1999-04-22
				KR	B	145366	1998-08-01
				DE	D	69411351D	1998-08-06
				US	A	5522235	1996-06-04
				EP	A	0652372	1995-05-10
EP	A	669464		HU	B	217275	1999-12-28
				US	A	5573388	1996-11-12
				HU	A	71751	1996-01-29
				EP	A	0669464	1995-08-30
US	A	2812128	1957-11-05	none			
US	A	2904973	1959-09-22	none			
US	A	4598559	1986-07-08	KR	B	8903230	1989-08-27
				IT	B	1190022	1988-02-10
				DK	A	254086	1986-12-01
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				BR	A	8602358	1987-01-21
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				DE	D	3668039D	1990-02-08
				EP	A	0227881	1987-07-08
				CA	A	1274495	1990-09-25
				BR	A	8603111	1987-06-02